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Cours ergonomie cognitive pdf

Cognitive ergonomics pdf. Cognitive ergonomics meaning. Cognitive ergonomics. Cognitive ergonomics course.

The interdisciplinary nature of cognitive ergonomics can sometimes lead to conceptual ambiguity, particularly in approaches related to cognitive sciences. This is the case with the term "Cognitive Ergonomics" (EC). After defining EC as a multidisciplinary field aimed at developing and applying knowledge to improve working conditions, distinct from Cognitive Engineering which focuses on machine-centered approaches, a brief history of EC is presented. Initially, EC originated in the community studying Human-Computer Interaction; research and practice were highly machine-centric. Today, an increasingly human-centered approach is being reintroduced in EC, with a primary challenge being the design of genuine cooperation between humans and machines to enhance adaptive system capabilities. As asked by the organizers of this conference to discuss the contributions of ergonomics to cognitive sciences, I felt unable to exhaustively cover such a vast topic within a short timeframe. I chose instead to focus on one of the most privileged themes in interdisciplinary interactions within cognitive ergonomics (a key player in cognitive sciences if that's the case) and which presents significant challenges in designing complex, dynamic, and hazardous human-machine systems of the present and future: human-machine cooperation. Cognitive Ergonomics has come a long way since 1982, when a research community organized itself under this banner in Europe. At that time, EC primarily adopted machine-centered approaches, involving individual "users." Research was largely driven by the successive appearance of new technologies. The early studies on programming psychology illustrate this fact well: studies were more inspired and structured by the launch of new programming languages than by design theories (as seen, for example, in the introduction to the first part of Hoc et al.'s book published in 1990). At that time, the reference paradigm was that of an isolated human interacting with an isolated machine. Currently, we can observe that EC research is increasingly... Inspired by the theories of life and social sciences, in the context of cognitive science development, human work analysis becomes increasingly prominent in EC research and practice. This shift also occurs outside the Atlantic region, as seen in journals like Human Factors, previously known for publishing individual works. The text presents the cognitive approach to design in both individual and collective expressions. It focuses on collaborative design and its relationships with individual design. Cognitive aspects are emphasized through empirical studies. The adopted theoretical framework is information processing, tailored for design problems. Key cognitive features of design problems are highlighted, including the impact of ill-defined characteristics and diverse representations on problem-solving, affecting solution satisfaction levels. This is followed by a description of both individual and collaborative activities: control and executive activities in development and evaluation. The text then introduces collective design specifics: co-design and distributed conception, temporal-spatial synchronization, cognitive synchronization, different types of interventions during the process, evaluation of proposed solutions, and argumentation. The conclusion compares individual and collective design situations.